

IN THE CLAIMS:

1-14. (canceled)

15. (currently amended) A computer-implemented method for determining business risk of a target business entity from qualitative event business information, at least some steps of said method performed by a computer coupled to a database, said method comprising:

retrieving, using the computer, a plurality of articles each containing qualitative event information ~~relevant to~~ and an identifier associated with the target business entity, wherein the ~~retrieved plurality of~~ articles contain keywords and text patterns that are representative of events of interest for the target business entity and are within a ~~reasonable~~ predetermined proximity to the identifier associated with the target business entity;

parsing, using the computer, each sentence within a paragraph of text from each one of the ~~retrieved plurality of~~ articles that contains keywords and text patterns into component parts of speech and grammar structure;

extracting event details and relationships between events and the target business entity from the component parts of speech and grammar structure;

determining, using the computer, temporal relationships between the events based at least in part on the extracted event details and relationships;

generating a structured events record from the extracted event details and relationships and from the temporal relationships, the structured events record stored within the database;

retrieving a plurality of templates of pattern events, wherein each template comprises a number and type of preselected events that form a pattern in an event category and temporal constraints that exist between the preselected events;

~~using temporal-based reasoning to identify how well each of the templates of pattern events match the structured events record~~ comparing the structured events record to the plurality of templates of pattern events including comparing the temporal relationships to the temporal constraints; and

generating a probability of risk measure based on the temporal comparison and a degree of match between the ~~identified~~ plurality of templates of pattern events and the structured events record.

16. (canceled)

17. (currently amended) The method according to claim 15, wherein [[the]] extracting [[of]] event details and relationships between events and the target business entity comprises:

locating the identifier associated with the target business entity and keywords that are representative of events of interest in each sentence;

identifying roles of the keywords in the sentences; and

determining relationships between events and the target business entity based on the roles of the keywords.

18. (original) The method according to claim 17, further comprising identifying sense and direction of the events in the sentences.

19. (original) The method according to claim 15, wherein the structured events record comprises an event category, event keywords within each sentence of an article, roles of the keywords within each sentence, relationships between the events and the target business entity and sense and direction of the events.

20. (currently amended) The method according to claim 15, wherein ~~the using of temporal based reasoning to identify how well the templates of pattern events match the structured events record~~ comparing the structure events record to the plurality of templates of pattern events comprises utilizing ~~one or more techniques selected from the group consisting of:~~ at least one of a case-based reasoning[[,]] and a Bayesian belief network.

21. (original) The method according to claim 15, further comprising generating an alert when the probability of risk measure reaches a predetermined threshold.

22. (currently amended) A computer-implemented method for monitoring business risk of a target business entity using qualitative event business information, at least some steps of said method performed by a computer coupled to a database, said method comprising:

searching a plurality of natural language sources for articles ~~mentioning~~ including an identifier associated with the target business entity;

retrieving, using the computer, a plurality of articles each containing qualitative event business information ~~relevant to~~ and the identifier associated with the target business entity, wherein the ~~retrieved~~ plurality of articles contain keywords and text patterns that are representative of events of interest for the target business entity and are within a reasonable predetermined proximity to the identifier associated with the target business entity;

determining whether any of the ~~retrieved~~ plurality of articles contain unanalyzed qualitative event business information;

~~for the retrieved articles containing unanalyzed qualitative event business information,~~
parsing, using the computer, each sentence within a paragraph of text from ~~the retrieved article at~~ least one of the plurality of articles containing unanalyzed qualitative event business information into component parts of speech and grammar structure;

extracting event details and relationships between events and the target business entity from the component parts of speech and grammar structure;

determining, using the computer, temporal relationships between the events based at least in part on the extracted event details and relationships;

generating a structured events record from the extracted event details and relationships and from the temporal relationships, the structured events record stored within the database;

retrieving a plurality of templates of pattern events, wherein each template comprises a number and type of preselected events that form a pattern in an event category and temporal constraints that exist between the preselected events;

~~using temporal-based reasoning to identify how well each of the templates of pattern events match the structured events record~~ comparing the structured events record to the plurality of templates of pattern events including comparing the temporal relationships to the temporal constraints; and

generating a probability of risk measure based on the temporal comparison a degree of match between the ~~identified~~ plurality of templates of pattern events and the structured events record.

23. (currently amended) The method according to claim 22, wherein ~~[[the]]~~ extracting ~~[[of]]~~ event details and relationships between events and the target business entity comprises:

locating the identifier associated with the target business entity and keywords that are representative of events of interest in each sentence;

identifying roles of the keywords in the sentences; and

determining relationships between events and the target business entity based on the roles of the keywords.

24. (original) The method according to claim 22, wherein the structured events record comprises an event category, event keywords within each sentence of an article, roles of the keywords within each sentence, relationships between the events and the target business entity and sense and direction of the events.

25. (currently amended) The method according to claim 22, wherein ~~the using of temporal-based reasoning to identify how well the templates of pattern events match the structured events record~~ comparing the structure events record to the plurality of templates of pattern events comprises utilizing ~~one or more techniques selected from the group consisting of:~~ at least one of a case-based reasoning[[,]] and a Bayesian belief network.

26. (original) The method according to claim 22, further comprising generating an alert when the probability of risk measure reaches a predetermined threshold.

27.-43. (canceled)

44. (currently amended) A system for analyzing business risk of a target business entity from qualitative event business information, comprising:

a computer processor in communication with a first computer storage system and a second computer storage system;

a text pattern database, stored on ~~[[a]]~~ the first computer storage system, that defines a set of keywords and text patterns that are representative of events of interest;

a search component ~~running on a~~ operated by the computer processor and configured to search a plurality of natural language sources and retrieve a plurality of articles each containing keywords and text patterns defined in the text pattern database;

an extraction engine component ~~running on a~~ operated by the computer processor and configured to extract a structured events record from the plurality of articles, wherein the extraction engine component comprises a grammar parsing tool configured to receive paragraphs of text containing the keywords and text patterns from each of the plurality of ~~retrieved~~ articles and parse each sentence within the paragraphs into component parts of speech and grammar structure; ~~[[and]]~~

a semantic analysis tool operated by the computer processor and configured to extract event details and relationships between events and the target business entity from the component parts of speech and grammar structure;

a pattern events database, stored ~~[[on]]~~ the a second computer storage system, that comprises a plurality of templates of pattern events, wherein each template comprises a number and type of preselected events that form a pattern in an event category and temporal constraints that exist between the preselected events; and

a pattern analyzer ~~running on a~~ operated by the computer processor and configured to ~~use temporal reasoning to~~ determine temporal relationships between the events based at least in part on the extracted event details and relationships, and compare the structured events record to the plurality of templates of pattern events ~~and identify how well each of the templates of pattern events match the structured events record~~ including comparing the temporal relationships to the temporal constraints.

45. (currently amended) The system according to claim 44, further comprising a proximity checking component configured to ascertain whether the keywords and text patterns in the ~~retrieved plurality of~~ articles are within a ~~reasonable~~ predetermined proximity to the identifier associated with the target business entity.

46. (currently amended) The system according to claim 45, wherein the proximity checking component is configured to remove articles that do not have keywords or text patterns within a ~~reasonable~~ predetermined proximity to the identifier associated with the target business entity.

47. (original) The system according to claim 45, wherein the proximity checking component is configured to use a plurality of proximity rules to identify whether the keywords and text patterns are likely related to the target business entity.

48. (currently amended) The system according to claim 44, wherein the semantic analysis tool is configured to locate the identifier associated with the target business entity and keywords in each sentence, identify roles of the keywords in the sentences, and determine relationships between events and the target business entity based on the roles of the keywords.

49. (original) The system according to claim 48, wherein the semantic analysis tool is configured to identify sense and direction of the events.

50. (original) The system according to claim 44, wherein the structured events record comprises an event category, event keywords within each sentence of an article, roles of the keywords within each sentence, relationships between the events and the target business entity and sense and direction of the events.

51. (currently amended) The system according to claim 44, wherein the pattern analyzer is configured to generate a probability of risk measure based on the temporal comparison and a degree of match between the identified plurality of templates of pattern events and the structured events record.

52. (currently amended) The system according to claim 44, wherein the pattern analyzer utilizes at least one of a case-based reasoning and a Bayesian belief network.

53. (original) The system according to claim 44, further comprising an alert component configured to generate an alert when the pattern analyzer determines that the risk of the target business entity has reached a predetermined threshold.

54-67. (canceled)

68. (currently amended) A computer-readable medium having tangibly stored thereon a computer program determining business risk of a target business entity from qualitative event business information, the computer program comprising a routine set of instructions which when executed by a computer machine cause the computer machine to perform the steps of:

retrieving a plurality of articles each containing qualitative event information ~~relevant to and an identifier associated with~~ the target business entity, wherein the ~~retrieved plurality of~~ articles contain keywords and text patterns that are representative of events of interest for the target business entity and are within a ~~reasonable~~ predetermined proximity to the identifier associated with the target business entity;

parsing each sentence within a paragraph of text from each of the ~~retrieved plurality of~~ articles that contains keywords and text patterns into component parts of speech and grammar structure;

extracting event details and relationships between events and the target business entity from the component parts of speech and grammar structure;

determining temporal relationships between the events based at least in part on the extracted event details and relationships;

generating a structured events record from the extracted event details and relationships and from the temporal relationships;

retrieving a plurality of templates of pattern events, wherein each template comprises a number and type of preselected events that form a pattern in an event category and temporal constraints that exist between the preselected events;

~~using temporal-based reasoning to identify how well each of the templates of pattern events match the structured events record~~ comparing the structured events record to the plurality of templates of pattern events including comparing the temporal relationships to the temporal constraints; and

generating a probability of risk measure based on the temporal comparison and a degree of match between the identified plurality of templates of pattern events and the structured events record.

69. (canceled)

70. (currently amended) The computer-readable medium according to claim 68, ~~wherein the extracting of event details and relationships between events and the target business entity comprises~~ further comprising instructions for:

locating the identifier associated with the target business entity and keywords that are representative of events of interest in each sentence;

identifying roles of the keywords in the sentences; and

determining relationships between events and the target business entity based on the roles of the keywords.

71. (original) The computer-readable medium according to claim 70, further comprising instructions for identifying sense and direction of the events in the sentence.

72. (original) The computer-readable medium according to claim 68, wherein the structured events record comprises an event category, event keywords within each sentence of an article, roles of the keywords within each sentence, relationships between the events and the target business entity and sense and direction of the events.

73. (currently amended) The computer-readable medium according to claim 68, ~~wherein the using of temporal-based reasoning to identify templates of pattern events that match the structured events record comprises~~ further comprising instructions for utilizing ~~one or more~~

~~techniques selected from the group consisting of:~~ at least one of a case-based reasoning[[,]] and a Bayesian belief network.

74. (original) The computer-readable medium according to claim 68, further comprising instructions for generating an alert when the probability of risk measure reaches a predetermined threshold.